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| SUGHRUE MION, PLLC 2100 PENNSYLVANIA AVENUE, N.W. SUITE 800 WASHINGTON, DC 20037 | | | MAYO III, WILLIAM H | |
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| | | | 2831 | |

DATE MAILED: 06/01/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|------------------------|---------------------|--|
| Office Action Summary | Application No. | Applicant(s) | |
| | 10/510,031 | TACHIBANA ET AL. | |
| | Examiner | Art Unit | |
| | William H. Mayo III | 2831 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 March 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1, 4 and 7-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 4, and 7-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) * | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 4, and 11-12 are rejected under 35 U.S.C. 102(b) as being anticipated by Asakura et al (Pat Num 5,808,260, herein referred to as Asakura). Asakura discloses a cable connection method (Figs 1-10) for connecting an end of a conductor (3a) of a cable (3) to the connecting face (A) of a contact member (2a) of a connector (2) such that the lengthwise direction of the connecting face (A) and the lengthwise direction of the conductor (3) are mutually matched in the connection (Fig 1).

Specifically, with respect to claim 1, Asakura discloses a method wherein the cable (3) has an conductor end (3a) which is pressurized against said connecting face (A) by a pair of electrodes (8 & 9) mutually separated in the lengthwise direction (top to bottom) of said conductor (3a) and an electric current is passed between said pair of electrodes (8 & 9), welding said end of said cable (3a) and said connecting face (A) of the connector (2) together (Col 4, lines 45-62). With respect to claim 4, Asakura discloses that a part (3a) of the conductor (3) that comes into contact with the connecting face (A) of the contact (2) is formed as a flat surface and the part of the conductor (3) that comes into contact with the electrodes (8 & 9) is formed on as a flat surface (Fig 1). With

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respect to claim 11, Asakura discloses a cable welding device (8 & 9) for connecting an end of a conductor (3a) of a cable (3) to the connecting face (A) of a contact member (2a) of a connector (2) such that the lengthwise direction of the connecting face (A) and the lengthwise direction of the conductor (3) are mutually matched in the connection (Fig 1) comprising a base (not numbered) on which the connector (2) furnishing the contact (2a) is disposed, a pair of electrodes (8 & 9) mutually separated in the) lengthwise direction (top to bottom) of the conductor (2), pressure means (10) capable of pressing the pair of electrodes (8 & 9) to pressure the end (3a) of the conductor (3) against the connecting face (A) and a voltage applying means (23) capable of applying a voltage between the electrodes (6 & 7, Fig 1). With respect to claim 12, Asakura discloses a plurality of contacts (2a) and an end (3a) of the conductor (3) comprising a pair of electrodes (8 & 9) moving a position to enable the contacts (2a) to be welded and pressured (Col 4, lines 45-62).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein

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were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 7, 9, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Asakura (Pat Num 5,808,260). Asakura discloses a cable connection method (Figs 1-10) for connecting an end of a conductor (3a) of a cable (3) to the connecting face (A) of a contact member (2a) of a connector (2) such that the lengthwise direction of the connecting face (A) and the lengthwise direction of the conductor (3) are mutually matched in the connection (Fig 1). Specifically, with respect to claim 7, Asakura discloses a method wherein the cable (3) has an conductor end (3a) which is pressurized against said connecting face (A) by a pair of electrodes (8 & 9) mutually separated in the lengthwise direction (top to bottom) of said conductor (3a) and an electric current is passed between said pair of electrodes (8 & 9), welding said end of said cable (3a) and said connecting face (A) of the connector (2) together (Col 4, lines 45-62), wherein the state of the welding is within the scope in which a depth at the top of the color change part forming the arc (bottom electrode) on the contact (2) is above a distance to the condition immediately prior to blasting the contact (2). With respect to claim 9, Asakura discloses that a part (3a) of the conductor (3) that comes into contact with the connecting face (A) of the contact (2) is formed as a flat surface and the part of

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the conductor (3) that comes into contact with the electrodes (8 & 9) is formed on as a flat surface (Fig 1).

However, Asakura doesn't necessarily disclose the distance being 0.1mm (claim 7).

With respect to claim 7, it would have been obvious to one having ordinary skill in the art of cables at the time the invention was made to modify the distance of Asakura to comprise the state of the welding is within the scope in which a depth at the top of the color change part forming the arc on the contact is above a distance of 0.1mm to the condition immediately prior to blasting the contact, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F. 2d 272, 205 USPQ 215 (CCPA 1980).

Asakura discloses a cable connection method (Figs 1-10) for connecting an end of a conductor (3a) of a cable (3) to the connecting face (A) of a contact member (2a) of a connector (2) such that the lengthwise direction of the connecting face (A) and the lengthwise direction of the conductor (3) are mutually matched in the connection (Fig 1) as disclosed with respect to claim 1 above. Specifically, with respect to claim 18, Asakura discloses that the welding is within the scope in which a depth at the top of the color change part forming the arc (bottom electrode) on the contact (2) is above a distance to the condition immediately prior to blasting the contact (2).

However, Asakura also doesn't necessarily disclose the distance being 0.1mm (claim 18).

With respect to claim 18, it would have been obvious to one having ordinary skill in the art of cables at the time the invention was made to modify the distance of Asakura to comprise the state of the welding is within the scope in which a depth at the top of the color change part forming the arc on the contact is above a distance of 0.1mm to the condition immediately prior to blasting the contact, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F. 2d 272, 205 USPQ 215 (CCPA 1980).

6. Claims 8, 10, and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Asakura (Pat Num 5,808,260) in view of Japanese Patent (JP 60-50079, herein referred to as JP). Asakura discloses a cable connection method (Figs 1-10) for connecting an end of a conductor (3a) of a cable (3) to the connecting face (A) of a contact member (2a) of a connector (2) such that the lengthwise direction of the connecting face (A) and the lengthwise direction of the conductor (3) are mutually matched in the connection (Fig 1). Specifically, with respect to claim 8, Asakura discloses a method wherein the cable (3) has an conductor end (3a) which is pressurized against said connecting face (A) by a pair of electrodes (8 & 9) mutually separated in the lengthwise direction (top to bottom) of said conductor (3a) and an electric current is passed between said pair of electrodes (8 & 9), welding said end of said cable (3a) and said connecting face (A) of the connector (2) together (Col 4, lines 45-62), wherein the state of the welding is within the scope in which a depth at the top of the color change part forming the arc (bottom electrode) on the contact (2) is above a distance to the condition immediately prior to blasting the contact (2). With respect to

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claim 10, Asakura discloses that a part (3a) of the conductor (3) that comes into contact with the connecting face (A) of the contact (2) is formed as a flat surface and the part of the conductor (3) that comes into contact with the electrodes (8 & 9) is formed on as a flat surface (Fig 1).

However, Asakura doesn't specifically disclose the welding step comprising the dispersion of a layer of precious metal thinly covering the surface of the conductor of the cable (claim 8).

JP teaches a cable connection (Fig 1), wherein Au is utilized as a brazing filler metal to coat the conductor (1) to form an alloy layer, for the purpose of forming a strong soldering layer for bonding to another conductor (abstract).

With respect to claim 8, it would have been obvious to one having ordinary skill in the art of cables at the time the invention was made to modify the conductor wires of Asakura to comprise the AU solder layer configuration as taught by JP because JP teaches that such a configuration provides a strong soldering layer for bonding to another conductor (abstract).

Asakura also doesn't necessarily disclose the distance being 5 μm (claim 8).

With respect to claim 8, it would have been obvious to one having ordinary skill in the art of cables at the time the invention was made to modify the distance of Asakura to comprise the state of the welding is within the scope in which a depth at the top of the color change part forming the arc on the contact is above a distance of 5 μm to the condition immediately prior to blasting the contact, since it has been held that

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discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F. 2d 272, 205 USPQ 215 (CCPA 1980).

Asakura also discloses a cable connection method (Figs 1-10) for connecting an end of a conductor (3a) of a cable (3) to the connecting face (A) of a contact member (2a) of a connector (2) such that the lengthwise direction of the connecting face (A) and the lengthwise direction of the conductor (3) are mutually matched in the connection (Fig 1) as disclosed with respect to claim 1 above.

Asakura doesn't specifically disclose the welding step comprising the dispersion of a layer of precious metal thinly covering the surface of the conductor of the cable (claim 19).

JP teaches a cable connection (Fig 1), wherein Au is utilized as a brazing filler metal to coat the conductor (1) to form an alloy layer, for the purpose of forming a strong soldering layer for bonding to another conductor (abstract).

With respect to claim 19, it would have been obvious to one having ordinary skill in the art of cables at the time the invention was made to modify the conductor wires of Asakura to comprise the AU solder layer configuration as taught by JP because JP teaches that such a configuration provides a strong soldering layer for bonding to another conductor (abstract).

Asakura also doesn't necessarily disclose the distance being 5 μm (claim 19).

With respect to claim 19, it would have been obvious to one having ordinary skill in the art of cables at the time the invention was made to modify the distance of Asakura to comprise the state of the welding is within the scope in which a depth at the top of the

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color change part forming the arc on the contact is above a distance of 5 μm to the condition immediately prior to blasting the contact, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F. 2d 272, 205 USPQ 215 (CCPA 1980).

7. Claims 13-17 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ozai (Pub Num 2003/0065625) in view of Asakura (Pat Num 5,808,260). Ozai discloses an electrical connector assembly for connecting a plurality of coaxial cables to a flat cable (purpose). Specifically, with respect to claim 13, Ozai discloses that a cable (1) comprising a connector (1) including a base (3) having a plurality of conductor contacts (4 & 5) on a surface of the base (3), comprising a plurality of signal contacts (4) and a plurality of ground contacts (5), wherein the individual ground contacts (5) are arranged between adjacent pairs of adjacent signal contacts (4), a cable main body (6) comprising a plurality of wire conductors (not numbered) that connect to the plurality of contacts (4 & 5), wherein the wire conductors (not numbered) and the contacts (4 & 5) are mutually and electrically connected (Page 1, paragraph 5). With respect to claim 14, Ozai discloses that a cable (1) comprising a connector (1) including a base (3) having a plurality of conductor contacts (4 & 5) on a surface of the base (3), comprising a plurality of signal contacts (4) and a plurality of ground contacts (5), wherein the individual ground contacts (5) are arranged between adjacent pairs of adjacent signal contacts (4), a cable main body (6) comprising a plurality of wire conductors (not numbered) that connect to the plurality of contacts (4 & 5), wherein the wire conductors (not numbered) and the contacts (4 & 5) are mutually and electrically connected (Page

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1, paragraph 5), wherein the base (3) includes a flat plate having a front face and a rear face, wherein a plurality of strip first signal conductors (4 & 5) are positioned at determined intervals along a y axial direction which is one direction parallel to the front face and disposed extending in the x axial direction that is the other direction parallel to said front face (Fig 2), wherein the plurality of conductive contacts comprise a plurality of second signal contacts (bottom 4) disposed on the rear face and opposing the first signal contacts (top 4) such that the flat plate is interposed there between (Fig 3), and a plurality of ground contacts (5) disposed on the front face extending in the x axial direction and between the first and second signal contacts (4 & 5), wherein a wire conductor (not numbered) includes a first signal wire (Fig 1), a second signal wire (Fig 1) and a drain wire (9), wherein the first signal wire (not numbered) is connected to the first signal contact (top 4), the second signal wire (not numbered) connected to the second signal contact (bottom 4), and the drain wires (9) connected to the ground contact (5, Fig 3). With respect to claim 15, Ozai discloses that the front face and the rear face comprise ground contacts (5) that are raised in a z direction orthogonal to the front and rear faces and extending in an x axial direction (Fig 5). With respect to claim 16, Ozai discloses that the cable connection (Fig 1) comprises a plurality of cables (not numbered), wherein each wire conductor (not numbered) includes a first signal wire (not numbered), a second signal wire (not numbered) and a drain wire (9), wherein the first signal wire (not numbered) is connected to the first signal contact (top 4), the second signal wire (not numbered) connected to the second signal contact (bottom 4), and the drain wires (9) connected to the ground contact (5) of the connector (1). With respect to

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claim 17, Ozai discloses that each wire conductor (not numbered) includes a first signal wire (not numbered), a second signal wire (not numbered) and a drain wire (9), wherein the first signal wire (not numbered) is connected to the first signal contact (top 4), the second signal wire (not numbered) connected to the second signal contact (bottom 4), and the drain wires (9) connected to the ground contact (5) of the connector (1). With respect to claim 20, Ozai discloses that the welding is within the scope in which a depth at the top of the color change part forming the arc (bottom electrode) on the contact (2) is above a distance to the condition immediately prior to blasting the contact (2).

However, Ozai doesn't necessarily disclose the wire conductors and each of the contacts being mutually and electrically connected by welding, wherein the wire conductors have a flat surface in contact with the respective contacts (claim 13), nor the wire conductors and each of the contacts being mutually and electrically connected by welding (claim 14).

Asakura teaches a cable connection method (Figs 1-10) for connecting an end of a conductor (3a) of a cable (3) to the connecting face (A) of a contact member (2a) of a connector (2) such that the lengthwise direction of the connecting face (A) and the lengthwise direction of the conductor (3) are mutually matched in the connection (Fig 1), which prevents damage due to heat and provides a strong metallic connection between the conductor and connector (Col 2, lines 17-22). Specifically, with respect to claims 13-14, Asakura teaches a method wherein the cable (3) has an conductor end (3a) which is pressurized against said connecting face (A) by a pair of electrodes (8 & 9) mutually separated in the lengthwise direction (top to bottom) of said conductor (3a) and

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an electric current is passed between said pair of electrodes (8 & 9), welding said end of said cable (3a) and said connecting face (A) of the connector (2) together (Col 4, lines 45-62), wherein a part (3a) of the conductor (3) that comes into contact with the connecting face (A) of the contact (2) is formed as a flat surface and the part of the conductor (3) that comes into contact with the electrodes (8 & 9) is formed on as a flat surface (Fig 1).

With respect to claims 13-14, it would have been obvious to one having ordinary skill in the art of cables at the time the invention was made to modify the connection of Ozai to utilize the welding method which results in the flat conductor configuration as taught by Asakura because Asakura teaches that such a configuration prevents damage due to heat and provides a strong metallic connection between the conductor and connector (Col 2, lines 17-22) and since it has been held that a change in form cannot sustain patentability where involved is only extended application of obvious attributes from a prior art. *In re Span-Deck Inc. vs. Fab-Con Inc. (CA 8, 1982) 215 USPQ 835.*

Modified Ozai also doesn't necessarily disclose the distance being 0.1mm (claim 20).

With respect to claim 20, it would have been obvious to one having ordinary skill in the art of cables at the time the invention was made to modify the distance of Asakura to comprise the state of the welding is within the scope in which a depth at the top of the color change part forming the arc on the contact is above a distance of 0.1mm to the condition immediately prior to blasting the contact, since it has been held that

discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F. 2d 272, 205 USPQ 215 (CCPA 1980).

8. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ozai (Pub Num 2003/0065625) in view of Asakura (Pat Num 5,808,260, herein referred to as modified Ozai), as applied to claim 13 above, further in view of Japanese Patent (JP 60-50079, herein referred to as JP). Modified Ozai discloses an electrical connector assembly for connecting a plurality of coaxial cables to a flat cable (purpose) .

However, modified Ozai doesn't specifically disclose the welding step comprising the dispersion of a layer of precious metal thinly covering the surface of the conductor of the cable (claim 21).

JP teaches a cable connection (Fig 1), wherein Au is utilized as a brazing filler metal to coat the conductor (1) to form an alloy layer, for the purpose of forming a strong soldering layer for bonding to another conductor (abstract).

With respect to claim 21, it would have been obvious to one having ordinary skill in the art of cables at the time the invention was made to modify the conductor wires of modified Ozai to comprise the AU solder layer configuration as taught by JP because JP teaches that such a configuration provides a strong soldering layer for bonding to another conductor (abstract).

Ozai also doesn't necessarily disclose the distance being 5 μm (claim 21).

With respect to claim 21, it would have been obvious to one having ordinary skill in the art of cables at the time the invention was made to modify the distance of modified Ozai to comprise the state of the welding is within the scope in which a depth

at the top of the color change part forming the arc on the contact is above a distance of 5 μm to the condition immediately prior to blasting the contact, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F. 2d 272, 205 USPQ 215 (CCPA 1980).

Response to Arguments

9. Applicant's arguments filed March 23, 2006 have been fully considered but they are not persuasive. Specifically, the applicant argues the following:

- A) Asakura doesn't teach or disclose applying a pressure to the electrodes to press the core wires against the terminal and therefore Asakura doesn't anticipate or render the claims obvious.
- B) Asakura doesn't teach or disclose the conductors being flat when in contact with the contact and electrodes but rather an circular cross section and therefore doesn't anticipate or render the claims obvious.
- C) Asakura doesn't recognize that the depth of the color change part is variable or indicate in any way that the depth of a color change has any particular effect and therefore cannot reasonably be read as indicating that the depth of a color change layer would " result effective variable " and "involves only routine skill in the art".
- D) Neither Asakura nor JP '709 recognize that the depth of the dispersion of a precious metal layer is variable or indicate in any way that the depth of a dispersion of a precious metal layer has any particular effect and therefore

cannot reasonably be read as indicating that the depth of a color change layer would “ result effective variable “ and “involves only routine skill in the art”.

- E) JP '519 fails to teach or suggest that a plurality of conductive contacts are arranged between adjacent pairs of ground contacts and therefore cannot anticipate the claimed invention.

With respect to argument A, the examiner respectfully traverses. Clearly, while the applicant is correct in stating that Asakura teaches crimping the connector to the conductors prior to welding, Asakura clearly discloses that the electrodes 6 & 7 are utilized to send a current to the connection region of the contact and the cable conductor. Specifically, Asakura discloses in Column 4, lines 18-22,

“Therefore, as shown in Fig 1, with the electric wire 3 supported by a supporting apparatus (not shown), the welding between the caulking portion 2a and the core portion 3a is performed by a resistive welding apparatus composed of two electrodes 6, 7 and a power supply 23.

One of ordinary skill in the art realizes, that resistive welding requires pressurizing the two surfaces being welded in order to provide an adequate weld that is not too weak thereby resulting in the connection becoming loose. However, as a matter of evidence and support for such an assertion, the examiner relies on the following for support purposes only. Greenholtz et al (Pat Num 6,204,467) entitled “Method and Apparatus for Resistive Welding” discloses that welders performing resistive welding require a measured application of force between the electrodes and the work piece. Specifically, Greenholtz et al states in Column 1, lines 10-30

2. Description of the Related Arts

Modern metal fabrication facilities utilized resistive welding equipment. A resistive welder contacts opposite surfaces of a work piece with welding electrodes. An electric current applied to the electrodes causes the work piece to weld. 15
Hundreds of resistive welders are used by an automotive assembly facilities to join the various body components. The welders require a measured application of force between the electrodes and the work piece. If the applied force is too high, the work piece or electrodes may be damaged. If the 20
applied force is too low, the resulting weld may be weakened.

Most resistive welding equipment is constructed of opposed pneumatically or hydraulically operated cylinders. Electrodes are attached to each cylinder and contact the 25
work piece from opposite sides. The cylinders are generally positioned horizontally, whereby both the upper and lower cylinders are moved into contact with the work piece. Movable cylinders are used to provide an opening for the work piece and to apply a known force to the electrodes. 30

Asakura clearly discloses connecting the conductors to the connectors by resistive welding. Clearly, as taught by Greenholtz, during resistive welding, a force is exerted on the connection region by the electrodes. One of ordinary skill in the art knows that a force exerted over an area is equal to pressure. Specifically, general physics teaches that $\text{Pressure} = \text{Force} \times \text{Area}$. While Asakura doesn't specifically state that conductors and the contacts are connected by pressure, clearly there exist some type of pressure, if the conductors are connected to the contacts of the connector by resistive welding. In light of the above comments, the examiner respectfully submits that the 35 USC 102(b) rejection is proper and just.

With respect to argument B, the examiner respectfully traverses. Asakura clearly discloses that the connecting terminal and the conductor are crimped the same as described in the prior art. Specifically, Asakura states in Column 4, lines 10-16

"As shown in Fig 2, a core portion 3a of the electric wire 3 is crimped

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into a caulking portion 2a of the connecting terminal 2 before resistive welding by both electrodes 6, 7. This crimping method is the same as described in connection with the prior art. Specifically, for example, by using the pressurized tool 107 in the apparatus shown in Figs 5-7, the core-wire portion 3a of the electric wire 3 is crimped into the caulking portion 2a of the connecting terminal 2."

While the examiner believes that Figure 2 of Asakura clearly discloses the conductors being flat after compression, clearly Figures 5-7 show that the round conductors of the prior art are compressed thereby causing them to become flatten as shown in Figures 6-7. As a matter of fact, the cross section of the conductors shown in Figures 6-7 is in a more flatten state than that as illustrated by the applicant in Figures 8 & 12. Asakura clearly teaches that the conductors are crimped as shown in the prior art and therefore the conductors of Asakura are in a flatten state. MPEP 608 teaches that drawings must be evaluated for what they reasonably disclose. Specifically, it has been held that the drawings must be evaluated for what they reasonably disclose and suggest to one of ordinary skill in the art. In re Aslanian, 590 F. 2d 911, 200 USPQ 500 (CCPA 1979). In light of the above comments, the examiner respectfully submits that the 35 USC 102(b) rejection is proper and just.

With respect to arguments C & D, the examiner respectfully traverses. Clearly Asakura discloses welding said end of said cable (3a) and said connecting face (A) of the connector (2) together (Col 4, lines 45-62), wherein the state of the welding is within the scope in which a depth at the top of the color change part forming the arc (bottom electrode) on the contact (2) is above a distance to the condition immediately prior to

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blasting the contact (2). Asakura just doesn't specifically disclose a specific distance prior to blasting the contact. Clearly, JP teaches a cable connection (Fig 1), wherein Au is utilized as a brazing filler metal to coat the conductor (1) at a certain depth to form an alloy layer, for the purpose of forming a strong soldering layer for bonding to another conductor (abstract). JP just doesn't specifically disclose the specific depth at which filler metal is disclosed. The Courts have been consistent that discovering optimum or variable ranges of a known device, doesn't constitute patentable subject matter.

Specifically, "the law is replete with cases in which the difference between the claimed invention and the prior art is some range or other variable within the claims. See, e.g. *Garner V TEC Sys, Inc*, 725 F.2d 1338, 220 USPQ 777 (Fed. Cir.), cert. Denied, 469 US 830 [225 USPQ 232] (1984); *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980); *In re Ornitz*, 351 F. 2d 1013, 147 USPQ 283 (CCPA 1965); *In re Aller*, 220 F. 2d 454, 105 USPQ 233 (CCPA 1955). These cases have consistently held that in such a situation, the applicant must show that the particular range is critical, generally by showing that the claimed range achieves unexpected results relative to the prior art range. Gardner, 725 F.2d at 1349, 220 USPQ at 786 (obviousness determination)" ¹. In light of the above stated comments, the examiner respectfully submits that the 35 USC 103(a) rejections are proper and just.

With respect to argument E, the examiner respectfully submits that this argument is moot in view of the new rejection of the amended claims 13-17.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. It is Greenholtz, Jr et al (Pat Num 6,204,467), which discloses a method and apparatus for resistive welding.

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Communication

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to William H. Mayo III whose telephone number is (571)-272-1978. The examiner can normally be reached on M-F 8:30am-6:00 pm (alternate Fridays off).

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dean Reichard can be reached on (571) 272-2800 ext 31. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



William H. Mayo III
Primary Examiner
Art Unit 2831

WHM III
May 22, 2006